

CONSTRUCTION OF 4-CONNECTED GRAPHIC MATROIDS WITH ESSENTIAL ELEMENTS

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An element e of an n -connected matroid M is called *essential element* if neither $M \setminus e$ nor M/e is n -connected. Tutte proved that in a 3-connected matroid M every element is essential if and only if M is wheel or whirl. We give construction of some families of 4-connected graphic matroids in which every element is essential.